

**312.04.03** Riprap for scour protection will be measured and paid for at the Contract unit price per ton for the item Class II Riprap For Scour Protection.

**312.04.04** Aggregate Filter Blanket will be measured and paid for at the Contract unit price per square yard for the depth specified in the Contract Documents.

## SECTION 313 — GABIONS

**313.01 DESCRIPTION.** This work shall consist of protecting slopes and channels with stone filled wire baskets as specified in the Contract Documents or as directed by the Engineer.

### 313.02 MATERIALS.

Stone	901.05
Wire for Gabions	906.01
Geotextile, Class as specified	921.09

### 313.03 CONSTRUCTION.

**313.03.01 Excavation.** Excavation, including excavation for cutoff walls, shall conform to the lines and grades specified in the Contract Documents. The subgrade shall be smooth, firm, and free from protruding objects or voids that would affect the proper placement of the wire baskets or damage the geotextile. Refer to 402.03.01 for excavated material.

**313.03.02 Geotextile.** Geotextile shall be required for all gabions and shall be placed on the prepared subgrade. Adjacent strips shall be overlapped a minimum of 2 ft. Care shall be exercised in placing and anchoring the empty basket units to ensure proper alignment and to avoid damaging the geotextile. Damaged geotextile shall be replaced or repaired as directed by the Engineer at no additional cost to the Administration.

**313.03.03 Wire Baskets.** Placement of the units shall begin with the cutoff walls. The empty units shall be set on the geotextile and the vertical ends bound together with wire ties or interlocking fasteners spaced to permit stretching of the units to remove kinks. Stretching methods will be optional with the Contractor. Stakes, pins or other approved methods shall be used to ensure a proper alignment.

**313.03.04 Stone.** The empty basket units shall be filled carefully with stone placed by hand or machine to ensure good alignment with a

minimum of voids between stones, avoiding bulging of the mesh. The maximum height from which the stone shall be dropped into the units shall be 36 in. The stone shall be placed to provide a minimum of two courses. Care shall be taken in placing the top layer of stone to ensure a uniform surface to avoid any bulging of the lid mesh. After a basket unit has been filled, the lid shall be bent over until it meets the ends of the unit. The lid shall then be secured to the sides and ends with wire ties or interlocking fasteners. When a complete basket unit cannot be installed on slopes or channels because of space limitations, the basket unit shall be cut to fit as directed by the Engineer.

**313.03.05 Backfill.** Any excavation voids existing along the edges of the completed gabions shall be backfilled and compacted in a manner acceptable to the Engineer.

**313.04 MEASUREMENT AND PAYMENT.** Gabions, including cutoff walls will be measured and paid for at the Contract unit price per cubic yard of stone filled wire baskets complete in place. The payment will be full compensation for all excavation, geotextile, stone, ties or fasteners, backfill, compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

## SECTION 314 — FLOWABLE BACKFILL FOR UTILITY CUTS

**314.01 DESCRIPTION.** This work shall consist of furnishing, hauling and placing a flowable cement stabilized backfill material as specified in the Contract Documents or as directed by the Engineer. The material shall be used for utility cut backfill and shall set up to a stabilized mass.

**314.02 MATERIALS.** The flowable backfill shall consist of a mixture of fly ash, cement, and water and shall be certified by the manufacturer.

Cement	902.03
Fly Ash	902.06
Water	921.01

**314.02.01 Fillers.** Fillers, when required shall be natural aggregates with a maximum size of 3/4 in. and may include sands. Bottom ash shall not be used as a filler.

**314.02.02 Components.** Toxic or deleterious components shall not be used in the backfill mixture. The mixture shall have a 28 day, unconfined